

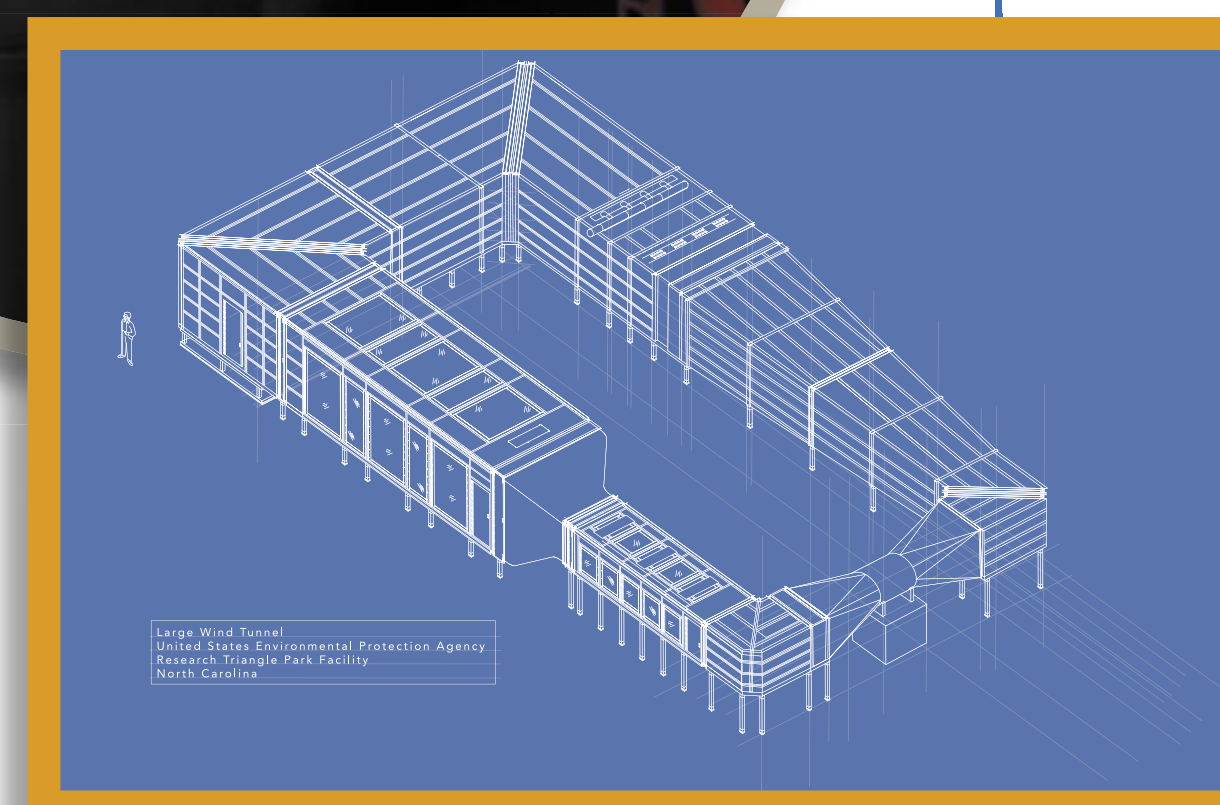


# Decontamination and Consequence Management

The Decontamination and Consequence Management Division (DCMD) focuses on rapid and cost-effective remediation and restoration of buildings and broad outdoor areas.

## DCMD's Mission

DCMD research identifies the optimal technologies and procedures for protecting decontamination crews, the general public, and the environment. Scientists at EPA and numerous cooperating government agencies are working to develop new methods for detecting and containing chemical, biological, and radiological hazards; decontaminating indoor and outdoor environments; and disposing of contaminants following a terrorist event.



## Detection

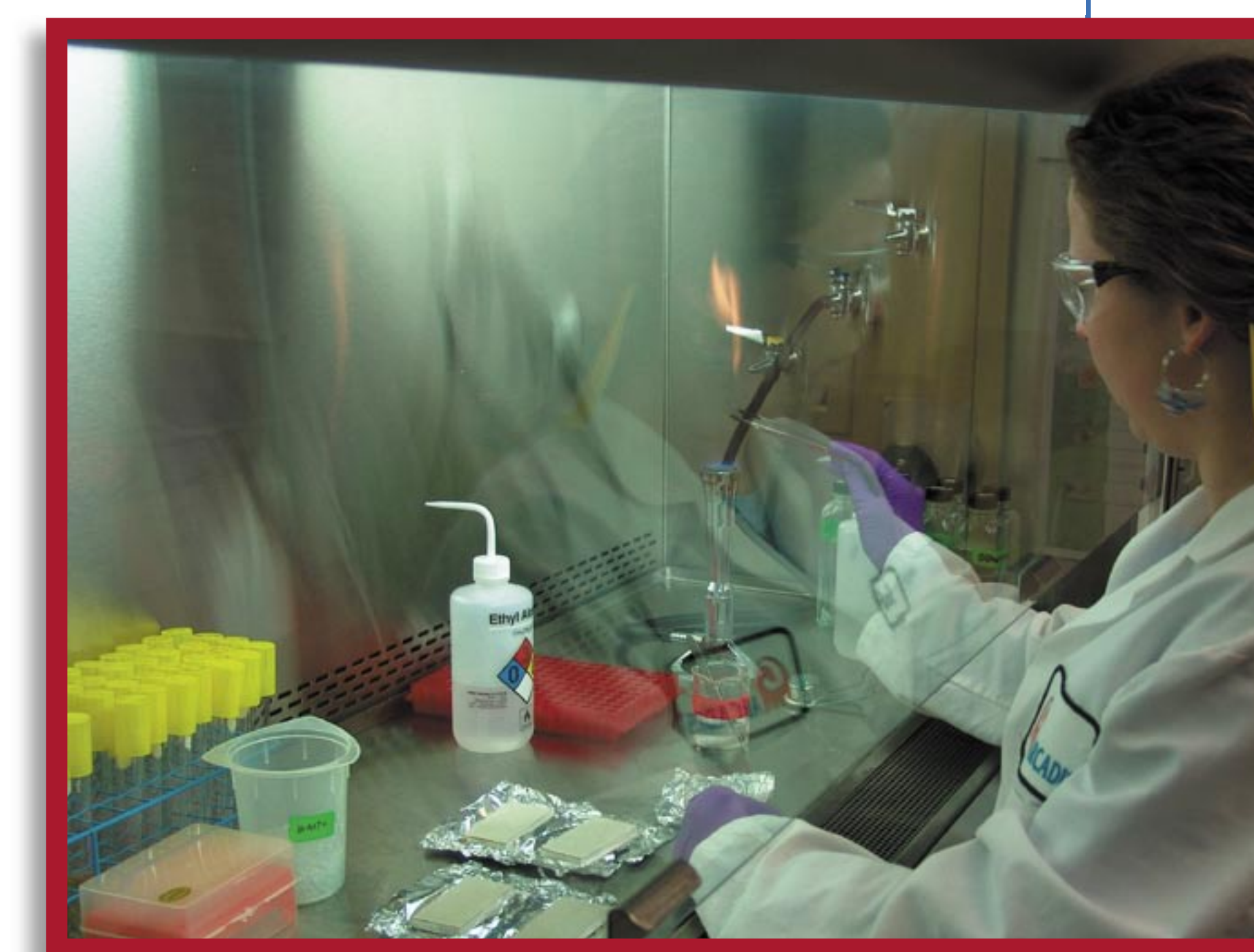
Detection research ensures that the sampling and analysis methods, both for detecting contamination and for verifying successful decontamination, will be available when needed. Research activities include:

- Developing portable detection systems for chemical agents in the air or on surfaces
- Adapting laser technologies for real-time detection of both chemical and biological agents
- Developing methods for rapid, accurate, and sensitive detection of bacteria after decontamination, with rapid assessment of viability
- Developing procedures to sample indoor surfaces for the presence of pathogenic bacteria and toxic chemicals
- Evaluating commercial technologies that might be used to detect airborne or surface-bound contaminants

## Containment

Containment research focuses on developing and testing methods to prevent the spread of contaminants; to protect people by providing tools, techniques, technologies, and guidance to minimize the impact of a chemical or biological attack on building occupants; and to evaluate the effectiveness and economics of chemical/biological protection measures for new and existing buildings. Research activities include:

- Evaluating the impact of HVAC design and operation on indoor dispersion of contaminants
- Developing procedures to prevent the spread of a contaminant
- Evaluating the effectiveness of residential safe havens
- Developing spill/release models to identify contaminated areas for evacuation and decontamination
- Studying indoor movement of contaminants to predict how much time building occupants have to escape or move to a safe haven
- Studying the effects of human activities on dispersion of agents
- Evaluating the impact of indoor materials, such as upholstery and wallboard, on exposure to agents
- Developing and evaluating new air cleaners and filters to remove toxic industrial chemicals
- Preparing guidance, training programs, and materials to limit the spread of airborne contaminants released in or near buildings



## Disposal

The purpose of disposal research is to provide guidance for disposing of contaminated materials and wastes generated during decontamination. Researchers focus on the tools, techniques, and technologies needed for the safe removal, packaging, transport, and final disposal of contaminated materials. Research activities include:

- Evaluating pollutants likely to be generated by disposal and recommending methods for minimizing their effects on the environment
- Investigating thermal destruction as a means to safely dispose of biological agents, carpets, building construction materials, air filters, adsorbents and other cleaning materials
- Determining the conditions of time and temperature required to ensure adequate destruction
- Assessing conditions for safe landfilling of building decontamination wastes
- Developing Web-based guidance for emergency responders, disposal permittees, and facility owners, addressing safety and regulatory issues associated with transport and disposal of contaminated materials

## Stakeholders

Primary stakeholders include the EPA regions and program offices, commercial, local and state laboratories, emergency responders, and other federal agencies involved with emergency response.



## Decontamination

The goal of decontamination research is to facilitate the selection of effective, safe, rapid, and cost-effective technologies and methods for decontaminating indoor or outdoor areas. Decontamination of porous building surfaces, such as carpeting and ceiling tiles, is a major focus. Research activities include:

- Field-testing commercially available decontamination methods and systems
- Developing new methods for the decontamination of high-value or special materials, such as electronics
- Evaluating the health effects of residual decontamination chemicals and reactions to byproducts
- Systematically testing available decontamination methods to optimize performance on specific materials
- Testing improved site preparation methods and portable fumigation systems

